reserve installation satisfies the 6-hour operating requirement of law.

(2) When the reserve power supply includes a battery, proof of the ability of such battery to operate continuously and effectively for 6 hours can be established by a discharge test over a prescribed period of time, when supplying power at the voltage required for normal operation to an electrical load as prescribed by paragraph (b)(4) of this section.

(3) When the reserve power supply includes an engine-driven generator, proof of the adequacy of the engine fuel supply to operate the unit continuously and effectively for 6 hours may be established by measuring the fuel consumption during 1 hour when supplying power, at the voltage required for normal operation, to an electrical load as prescribed by paragraph (b)(4) of this section.

(4) To determine the electrical load to be supplied by the reserve power supply, the following formula must be used:

(i) One-half of the reserve transmitter current with the key closed; plus

(ii) One-half of the reserve transmitter current with the key open; plus

(iii) One sixth of the current of the automatic radiotelegraph alarm signal keying device when this device is energized; plus

(iv) Current of the reserve receiver; plus

(v) Current of emergency lights; plus

(vi) Current of the bridge-to-bridge transceiver when connected.

(5) At the conclusion of the tests specified in paragraphs (b) (2) and (3) of this section, no part of the reserve power supply must have an excessive temperature rise, nor must the specific gravity or voltage of the battery be below the 90 percent discharge point.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44953, Aug. 25, 1993]

§80.809 Routing of power supply wiring.

The conductors connecting the main power supply to the main installation, the reserve supply to reserve installation and the radar power supply to the ship radar station, must be routed to ensure adequate protection from overload, mechanical injury and be kept clear of electrical grounds.

§80.810 Use of reserve installation.

The reserve transmitter, and the reserve power supply for the reserve transmitter, are primarily for safety and test communication. This equipment may be used for other communication for a period not to exceed 1 hour per day in the aggregate. The reserve receiver, and the reserve power supply for the reserve receiver if a battery, may be used at any time to maintain a safety watch if such use will not reduce the capabilities of the reserve power supply to energize the associated component or components of the reserve installation for at least 6 consecutive hours.

§80.811 Tests of reserve installation and automatic-alarm-signal keying device.

(a) The condition of the reserve installation and of the automatic alarm signal keying device must be determined (with the exception noted in paragraph (b) of this section) prior to the vessel's departure from each port and on each day the vessel is outside of a harbor or port. If the vessel is in two or more ports within one day, the required tests need be made only once. If the vessel is in port for less than one day, the required test for that day may be made before arrival or after departure. The following tests must be made and the results entered in the radiotelegraph station log:

(1) Check the reserve power supply as follows:

(i) Test battery charging circuits for correct polarity and charging rate:

(ii) In the case of lead-acid batteries, determine the specific gravity of the electrolyte.

(iii) In the case of other types of batteries, take voltage readings under normal battery load.

(iv) When an engine-driven generator is used, check the quantity of fuel in the fuel tank;

(2) Test the emergency lighting circuits and emergency electric lights by actual operation;

(3) Test the reserve receiver, while energized by the reserve power supply, by actual operation and comparison of

received signals with similar signals received by the main receiver;

(4) On days when not used for communication, the reserve transmitter energized by the reserve power supply must be tested by actual operation when connected to the main antenna, an artificial antenna or a reserve antenna.

(5) If installed, the reserve antenna must be used at least once each voyage, noting antenna currents;

(6) Test the automatic-alarm-signal keying device for correct timing adjustment of the keying mechanism. *Do not transmit when making this test.*

(b) In the case of vessels loading or discharging flammable, unstable or dangerous cargo, or while berthed at oil terminals or in other comparable areas, predeparture transmitter tests need not be made. In such cases, the provisions of paragraph (a)(4) of this section, in connection with predeparture tests, do not apply if a suitable explanation is entered in the radio station log.

§ 80.812 Automatic-alarm-signal keying device.

The required radiotelegraph station includes one or more devices, of a type accepted by the Commission in accordance with subpart F of this part capable of automatically operating the normal keying circuits of a required radiotelegraph transmitter to transmit the international radiotelegraph alarm signal.

§ 80.813 Installation of automatic-alarm-signal keying device.

(a) The automatic radiotelegraph alarm signal keyer must be installed in the radiotelegraph operating room. It must be possible to key, nonsimultaneously, the main transmitter and the reserve transmitter, and to permit the device to be taken out of operation at any time in order to permit immediate manual transmitter operation. Only one control must be provided for each automatic alarm signal keying device. This control must be located in the radiotelegraph operating room.

(b) The required automatic radiotelegraph alarm signal keying device must be capable of operating efficiently for a continuous period of 1 hour when energized solely by the reserve power supply.

§ 80.814 Radiotelegraph auto alarm.

An auto alarm which is installed and used on board a cargo ship of the United States pursuant to the provisions of § 80.315 comprises a complete receiving, selecting and warning device of a type accepted by the Commission in accordance with section 3(x) of the Communications Act, capable of being actuated automatically by intercepted radio frequency waves forming the international radiotelegraph alarm signal.

§ 80.815 Installation of radiotelegraph auto alarm.

Installation of a radiotelegraph auto alarm must comply with the following conditions.

(a) The auto alarm must be located in the radiotelegraph operating room and be installed and protected to insure proper operation. The radiotelegraph auto alarm system must be operated from the radiotelegraph operating room. A switch must be provided to:

(1) Transfer the main antenna from all other equipment and connect it to the radiotelegraph auto alarm receiver and place the auto alarm in service and, back to the original configuration A voltmeter must be provided for the determining that the supply voltages are within the operating limits.

(b) The auto alarm must give an audible warning in the radiotelegraph operating room, in the radio officer's cabin, and on the navigating bridge. The alarm must operate continuously after the alarm has been actuated by a radiotelegraph alarm signal or by failure of the system, until manually turned off. Only one switch for stopping the alarm is authorized, and this must be located in the radiotelegraph operating room and be capable of manual operation only. However ships operating under the general exemption of § 80.836(c) may install an additional switch on the bridge for stopping the warning apparatus.

(c) Failure of the auto alarm if of a type approved prior to July 23, 1951, to